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(56) Documents Cited

US 3321861 A US 2631393 A

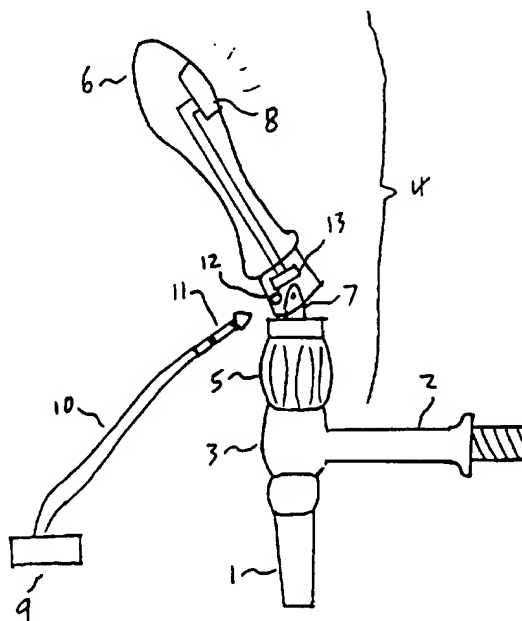
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23/04
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(54) Abstract Title

Illuminated beverage dispenser

(57) An illuminated dispense tap or beer engine, comprising light emitting means (8) mounted in or on a dispensing handle (6) and a plug and socket means (11,12) by which electrical contact may be made at the handle from a remote power supply and maintained during the dispensing operation.



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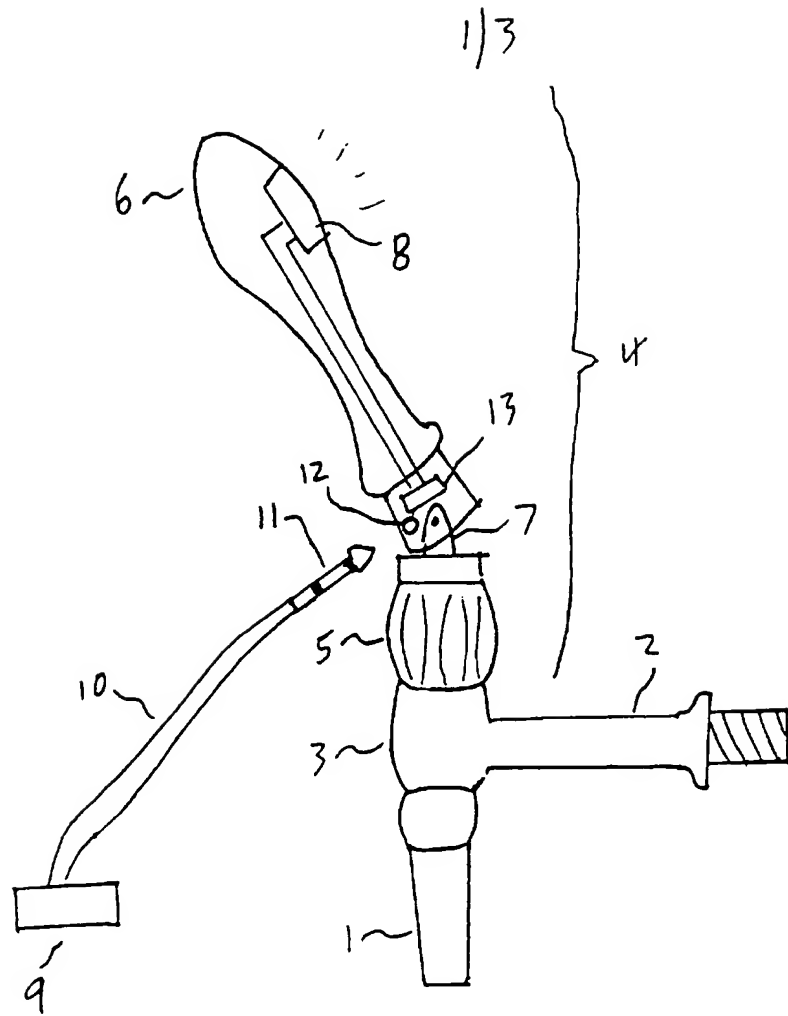


FIG 1

2/3

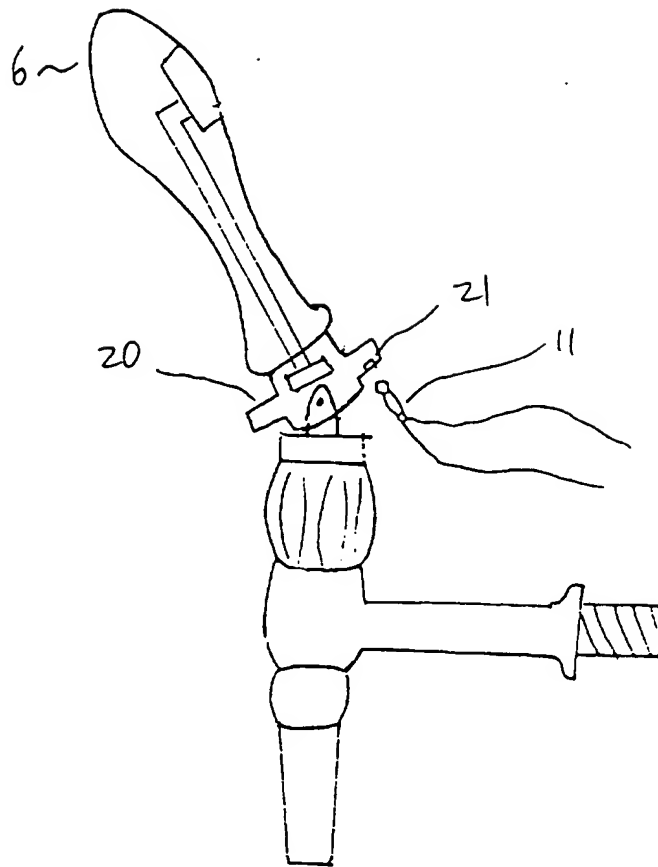


FIG 2

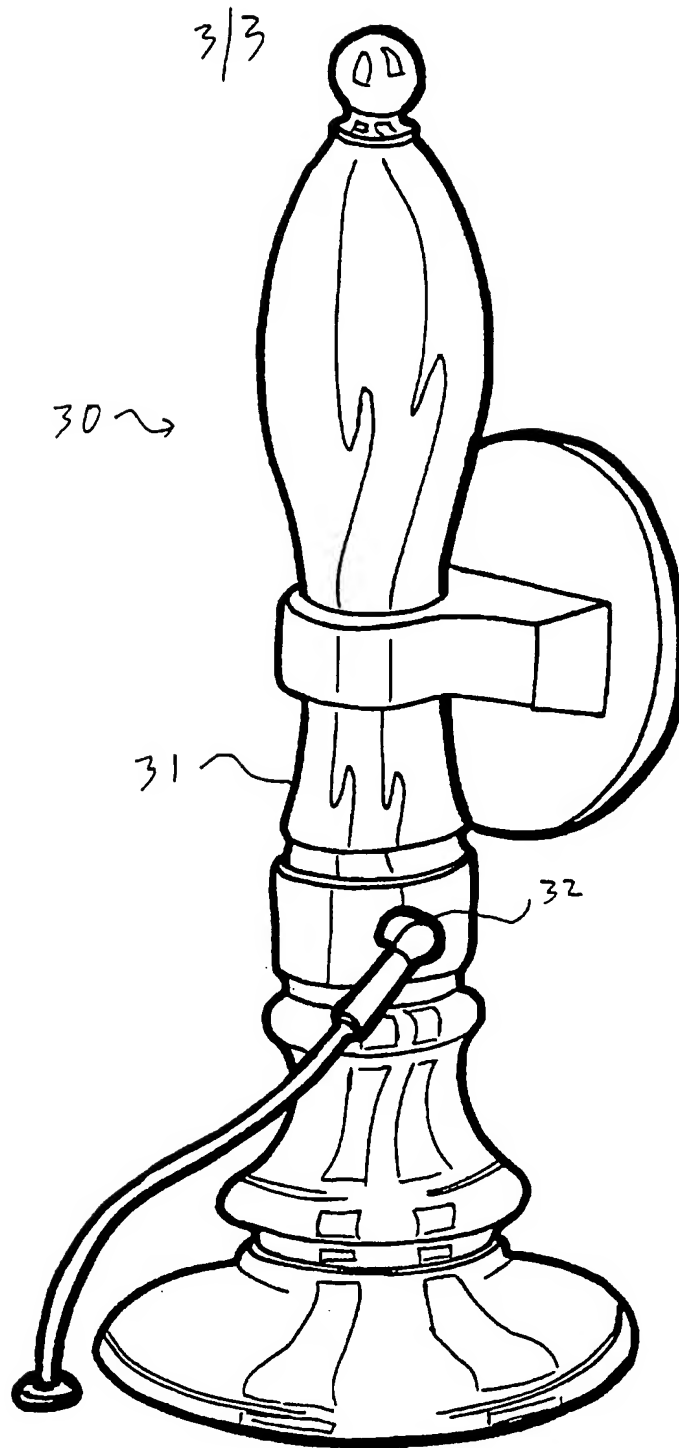


FIG 3

BEVERAGE DISPENSERS

This invention relates to beverage dispensers. In particular, but not exclusively, it relates to dispensing taps or pumps for beverages.

5

Dispensing taps for pressurised liquids like beer generally comprise a tap handle pivoted to a tap body and arranged to open and close a valve in the tap body as the tap handle is operated between an open and a closed position. The tap is generally mounted to a bar counter.

10

A beer dispenser may also comprise a pump handle which is pulled to directly draw beer from a storage means such as a barrel. This type of dispenser is generally known as a beer engine.

15

It is known to illuminate the handle of a dispense tap and illuminating means such as light bulbs may be included in the tap handle. However, this necessitates running wires to the tap handle and must be able to accommodate the relative pivoting of the tap handle about the body. Reliable and durable contact is difficult to achieve. Problems can also arise through liquid spillage at the contacts.

20

Other methods which have been proposed in the past are essentially contactless. Inductive coupling has been proposed, in which electromagnetic energy is applied to the tap body and movement of the tap handle relative thereto induces electromagnetic energy within a circuit in the tap handle to illuminate light emitters therein. Alternatively, light guides or similar devices have been proposed in which a light source is provided externally of the dispense tap and light is provided to the dispense tap by a light guide, e.g. a fibre optic cable or a more rigid type of light guide.

25
30

A problem with contactless type devices is that there is a restriction in the power which can be supplied to the tap handle and there are other disadvantages.

In an attempt to overcome some or all of the above problems, prior
5 solutions have included beer tap handles with an internal illumination, but which are powered by rechargeable batteries also housed within the handle. Systems such as these require periodic battery recharge; this is not desirable since the operation time of the illuminated handle is restricted by the lifetime of the batteries between recharges.

10

Other solutions have eschewed incorporation of batteries, and instead included make/break electrical contacts which connect beer handle illumination means to an electric supply while the handle is in a certain position only. One such system provides a handle which is illuminated only when the beer engine is
15 not in use. The light is extinguished as soon as a beer dispensing operation commences, since moving the handle away from an upright position breaks the electrical connection with the power supply.

According to an aspect of the present invention there is provided an
20 illuminated dispensing apparatus, including light emitting means mounted in or on a dispensing handle, a plug for releasably engaging with socket means via which electrical connection between an external remote power supply and the light emitting means may be made at the handle, the connection being such that substantially uninterrupted power is supplied to the light emitting means, from the
25 external power supply, during a dispensing operation.

The plug and socket means preferably comprises a simple jack plug and jack arrangement whereby a jack plug is provided at the end of a power supply lead from a remote power source and this is simply plugged into a jack on the tap
30 handle to provide power directly to the illumination means.

The plug and/or socket may be provided at any part of the handle.

An embodiment of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

5 Figure 1 shows schematically a dispensing tap for dispensing beverages such as beer;

Figure 2 shows schematically an alternative dispensing tap; and

Figure 3 shows a beer engine.

10 Referring to the Figure, a dispensing tap is of generally conventional form and comprises a nozzle 1 through which beer is dispensed, an inlet 2 connected to a supply of beer (e.g. from a barrel) and a valve (not shown) which opens or closes to control passage of the beer from the supply to the nozzle. The valve is mounted within a body portion 3. A tap handle shown generally at 4 operates the
15 valve in known manner. The handle 4 is attached to the dispensing tap by means of a threaded collar 5 which co-operates with an externally threaded part of the valve (not shown). A tap handle body 6 is pivotally attached to an actuating member 7 such that as the handle body 6 is pulled from a generally vertical towards a generally horizontal disposition, the actuator 7 acts upon the valve to
20 open the valve and thereby allow passage of the fluid.

In embodiments of the invention, the tap handle 6 is provided with illumination means 8. This may comprise a simple bulb, e.g. behind a transparent window, several bulbs, LED's or many other illumination means and may be
25 simply illuminated, or used to illuminate a pattern formed on the handle, or may itself form an illuminated pattern, wording, logo, etc, within a handle.

Power for the illumination means is provided from an external power supply 9 via cables 10 to a jack plug 11. This may be of any design and plugs into
30 a jack 12 mounted anywhere on, or in the vicinity of, the tap handle. The jack is

electrically connected to the illumination means, perhaps via an electronic control circuit 13 (e.g. when the illumination means comprises one or more LEDs or other optical devices).

5 Whereas, in previously proposed systems, wiring had to be taken through the tap body itself to the tap handle, in embodiments of the present invention a plug and socket arrangement is used to apply power directly to the tap handle. The wire from the jack plug can take any convenient route to the power source 9. It may be guided by guide means (not shown) provided on the tap body or may
10 merely be loosely mounted. Once the jack plug is inserted into the jack, then the trailing wires 10 simply have to flex to move, and thereby enable movement of the handle (e.g. a dispensing movement) while the electrical contact is still made.

 During beer dispensing operations (when the handle is no longer in a
15 substantially vertical position) and during periods of inoperation (when the handle is in a substantially vertical position), the plug 11 remains in contact with the socket 12, to continuously supply power directly to the illumination means.

 The socket/plug connection is of a known type which provides a secure yet
20 releasable mating.

 In the embodiment shown, the jack 12 is mounted on a side of the lower part of the handle. The jack may be provided at any other convenient location on, or in the vicinity of, the tap handle and may be mounted such that the jack plug
25 has to be pushed in in a generally horizontal disposition (when the tap handle extends generally vertically). In other embodiments, however, the jack may be provided at a position where the jack plug needs to be inserted in a generally vertical disposition, or in any other disposition. Figure 2 shows an embodiment in which a radial collar 20 is provided on the tap handle, having a jack 21 on an
30 underside. Jack plug 11 locates vertically into the socket.

In other embodiments, the tap handle may be provided with a projection (i.e. the plug) and the wires 10 may terminate in a termination having a socket. That is, the 'plug' may be on the tap handle and the 'socket' provided on the connection from the power supply.

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Figure 3 shows a beer engine, of the type used for directly pumping beer from a barrel or other storage means. The beer engine 30 includes a handle 31 which is manipulated so as to pump beer, or other beverages, directly from the barrel to a dispensing outlet or nozzle (not shown). So-called 'real ales' and other
10 non-pressurised beers are dispensed in this manner, as is well known.

In order to illuminate the beer engine, a plug and socket connection 32 is made to the handle, through which power is supplied from a remote source to an electrically powered light source within or on the beer engine.

CLAIMS

1. An illuminated dispensing apparatus, including light emitting means mounted in or on a dispensing handle, a plug for releasably engaging with socket
5 means via which electrical connection between an external remote power supply and the light emitting means may be made at the handle, the connection being such that substantially uninterrupted power is supplied to the light emitting means from the external supply.
- 10 2. An illuminated dispensing apparatus as claimed in Claim 1, wherein a jack plug is provided at the end of a power supply lead and a co-operating jack is provided on the handle.
3. An illuminated dispensing apparatus as claimed in Claims 1 or 2, wherein
15 the jack plug is inserted in a direction generally perpendicular to the axis of the handle.
4. An illuminated dispensing apparatus as claimed in Claims 1 or 2, wherein the jack plug is inserted in a direction generally parallel to the axis of the handle.
20
5. An illuminated dispensing apparatus as claimed in any preceding claim, which is a dispensing tap.
6. An illuminated dispensing apparatus as claimed in any preceding claim,
25 which is a beer engine.
7. An illuminated dispensing apparatus as claimed in any preceding claim, including a flexible connection for flexibility as the handle moves, to thereby retain electrical contact between the power supply and the light emitting means
30 during a dispensing operation.

8. An illuminated dispensing apparatus substantially as hereinbefore described with reference to, and as illustrated by, the accompanying drawings.



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Claims searched: 1-8

Examiner: Dr Albert Mthupha
Date of search: 18 February 2000

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.R): F4R (RAG); G5C (CFF)

Int Cl (Ed.7): B67D (1/08); G09F (13/20, 13/22, 23/00, 23/02, 23/04)

Other: ONLINE: EPODOC, JAPIO, WPI.

Documents considered to be relevant:

| Category | Identity of document and relevant passage | Relevant to claims |
|----------|---|--------------------------------|
| Y | US 3321861 A TATE, see Figures 1 & 4. | 1, 2, 4-6 |
| X, Y | US 2631393 A HETHERINGTON, see Figures 1 & 9. | X= 1, 2, 4-6. Y= 1, 2, 4-6. |

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| X | Document indicating lack of novelty or inventive step | A | Document indicating technological background and/or state of the art |
| Y | Document indicating lack of inventive step if combined with one or more other documents of same category. | P | Document published on or after the declared priority date but before the filing date of this invention. |
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